REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished to you.

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

Storage Instructions ........................................................................................................... 1
Skills Needed to Use This Manual ................................................................................... 2
How to Use This Manual ................................................................................................. 2
General Information ........................................................................................................ 5
   Purpose of Equipment .................................................................................................. 5
   Forms and Records ....................................................................................................... 6
Equipment Description ..................................................................................................... 6
   Capabilities and Features ............................................................................................ 6
   Battery Information ...................................................................................................... 6
   Location of Components ............................................................................................. 7
How It Works .................................................................................................................. 9
   How MILES is Used ..................................................................................................... 9
Limitations of Equipment ............................................................................................... 10
Task Assignment ............................................................................................................. 11
   Install Velcro Tape ..................................................................................................... 12
   Velcro Mounting Instructions for Vehicle ..................................................................... 13
   Velcro Mounting Instructions for Crew Helmets ......................................................... 15

*Supercedes TM 9-1265-369-10-1 dated 22 January 1982
# TABLE OF CONTENTS (Continued)

**Outside Tasks:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect Velcro Tape</td>
<td>16</td>
</tr>
<tr>
<td>Get This Equipment from Your NCOIC</td>
<td>17</td>
</tr>
<tr>
<td>Inspect and Service Detector Belt Segments</td>
<td>24</td>
</tr>
<tr>
<td>Install Detector Belt Segments</td>
<td>25</td>
</tr>
<tr>
<td>Inspect and Service CVKI</td>
<td>30</td>
</tr>
<tr>
<td>Install the CVKI</td>
<td>31</td>
</tr>
<tr>
<td>Inspect CVKI Cable Assembly</td>
<td>32</td>
</tr>
<tr>
<td>Install CVKI Cable Assembly</td>
<td>33</td>
</tr>
</tbody>
</table>

**Inside Tasks:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect Control Console</td>
<td>35</td>
</tr>
<tr>
<td>Install Control Console</td>
<td>36</td>
</tr>
<tr>
<td>Inspect and Install Battery Box and Batteries</td>
<td>37</td>
</tr>
<tr>
<td>Inspect Coax MG Microphone Assembly</td>
<td>38</td>
</tr>
<tr>
<td>Install Coax MG Microphone Assembly</td>
<td>39</td>
</tr>
<tr>
<td>Inspect Main Gun/Coax MG Transmitter</td>
<td>40</td>
</tr>
<tr>
<td>Install Main Gun/Coax MG Transmitter</td>
<td>41</td>
</tr>
<tr>
<td>Inspect MILES Cables</td>
<td>42</td>
</tr>
<tr>
<td>Install MILES Cables</td>
<td>43</td>
</tr>
</tbody>
</table>

**M85 Machine Gun Tasks:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and Service M85 Machine Gun Transmitter</td>
<td>50</td>
</tr>
<tr>
<td>Put Battery in Transmitter</td>
<td>51</td>
</tr>
<tr>
<td>Attach Transmitter</td>
<td>52</td>
</tr>
<tr>
<td>Blank-Fire Operation</td>
<td>53</td>
</tr>
</tbody>
</table>

**MWLD Tasks:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and Clean Torso Harness</td>
<td>54</td>
</tr>
<tr>
<td>Inspect and Clean Helmet Harness</td>
<td>55</td>
</tr>
<tr>
<td>Install Batteries in MWLD Harness</td>
<td>56</td>
</tr>
<tr>
<td>Put on Torso Harness</td>
<td>57</td>
</tr>
<tr>
<td>Put Helmet Harness on Helmet</td>
<td>58</td>
</tr>
</tbody>
</table>

**Test Tasks:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Operation of MWLD</td>
<td>59</td>
</tr>
<tr>
<td>Test MILES System</td>
<td>60</td>
</tr>
<tr>
<td>Troubleshooting Procedures</td>
<td>63</td>
</tr>
</tbody>
</table>
### TABLE OF CONTENTS (Continue)

**Align Tasks:**

- Align Main Gun/Coax MG Transmitter ............................................................................. 66
- Align M85 Machine Gun .................................................................................................. 67

**Operational Tasks:**

- Hoffman Device Safety Measures ................................................................................. 68
- Place Hoffman Device into Ready/Fire Operation .......................................................... 69
- Fire Main Gun or Coax MG ............................................................................................. 71
- Observe Your Target ..................................................................................................... 73
- Recognizing Enemy Fire ............................................................................................... 74
- Reset After a 'Kill' ........................................................................................................ 75
- Turn Off and Reset MWLD Alarm .................................................................................. 76
- Remove, Inspect, Service and Return all MILES Equipment .......................................... 77

**Appendixes:**

- **Appendix A:** References ......................................................................................... 79
- **Appendix B:** Components of End Item and Basic Issue Items List ......................... 81
- **Appendix C:** Additional Authorization List ............................................................... 83
- **Appendix D:** Special Tools and Test Equipment ....................................................... 83
- **Appendix E:** Expendable Supplies and Materials List ............................................... 84

**Reference Information:**

- Nomenclature Cross Reference List ............................................................................ 85
- List of Abbreviations .................................................................................................... 85
- Glossary ......................................................................................................................... 86

iii (iv blank)
Storage Instructions

**Equipment Distribution:**

The MILES Equipment for the M60A1/A3 is shown in Outside Task 2 of this Technical Manual (TM). Use the picture with Outside Task 2 as a guide for equipment distribution. Be sure to issue a copy of this TM along with the MILES equipment.

**Equipment Return and Storage:**

When receiving equipment for storage, always inspect the returned equipment using Operational Task 7 in this TM for guidance.

Return all MILES equipment and the TMs to their transit cases.

**Special Instructions for Infrequently Used Equipment:**

If M60A1/A3 MILES equipment is unused for 60 days, remove from transit case and perform Outside Tasks 2, 3, 5, and 7; inside Tasks 1, 3, 4, 6, and 8, MSS Machine Gun Task 1, MWLD Tasks 1 and 2; and Operational Task 7 in this TM.
Skills Needed To Use This Manual

To Use This Manual, You Should Be Able To:


3. Install blank-fire attachments on the M85 and coax machine guns.


5. Complete DA Form 2402.

If you can not do these tasks, ask your NCO or instructor to show you how. When you can do all these tasks, proceed with the instructions in this manual.

How to Use This Manual


- The first part of the manual briefly explains the purpose of the equipment and how it is used.
- Then follows step-by-step guidance for every task you need to do with the M60A1/A3/MILES equipment.
How to Use This Manual, Continued:

• The task pages look like this. Some longer tasks run more than one page. Before you begin a task, read all the steps in the task and look at each drawing carefully. To help perform the task, some steps have matching numbers in the drawings. Do each step just the way you are instructed.

TASK 2
Inspect and Clean Helmet Harness

1. Wipe detectors clean. (Clean all 5.)
2. Inspect helmet harness for any damage that would prevent normal operation.
   • Report any damage on DA Form 2404. Replace helmet harness only if not operable.
General Information

This manual shows you how to operate and maintain the MILES equipment for the M60A1/A3 Tank. MILES transmitters are installed in the breech of the main gun and on the cooling jacket of the M85 machine gun in the cupola. The operator tasks for the MILES equipment are listed in the Table of Contents on Pages 1 and 2.

Purpose of Equipment:

The MILES EQUIPMENT FOR THE M60A1/A3 consists of two battery-operated laser transmitters and a detector system, which permits realistic combat training without the hazards of using live ammunition.

Forms and Records:

a. Reports of Maintenance or Equipment Replacement. Department of the Army forms and procedures for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

b. Reporting Equipment Improvement Recommendations (EIRs). EIRs can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why a procedure is difficult. EIRs may be submitted on SF 368. Mail direct to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAD, Rock Island, IL 61299-6000.

A reply will be furnished to you.

c. Hand Receipt Manual

Hand receipts for Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt manual, TM 9-1265-369-10-1-HR. This manual is published to aid in property accountability and is available through: Commander, U.S. Army Adjutant General Publication Center, 2800 Eastern Boulevard, Baltimore, MD 21220.
Equipment Description

Capabilities and Features:

Major Components:

a. Laser transmitter in breech of main gun.

b. Laser transmitter on barrel support of M85 machine gun in cupola.

c. Detector belt segments on each side of the turret and on the rear.

d. A combat vehicle kill indicator (CVKI) which mounts to rear turret lifting eye. This device consists of a flashing light to indicate a vehicle kill, near miss, and hit.

Operates in temperatures from -35°C (-31°F) to 62°C (144°F).

Eye safe laser transmitter.

Tactical skills practiced under realistic conditions.

The laser transmitters send harmless, invisible laser flight) beams toward targets. If the laser beam hits a vehicle target, a detector assembly on the target senses the beam and turns on a flashing light mounted on the target.

Battery Information:

Battery Box:

BA-200/U, 6v carbon zinc (2)

M85 Machine Gun Transmitter:

BA-3090/U, 9V alkaline (1)

Man Worn Laser Detector - Torso Harness:

BA-3090/U, 9V alkaline (1)

Man Worn Laser Detector - Helmet Harness:

BA-3090/U, 9V alkaline (1)

Battery Life = 100 hours (approximate)
Location of Components:

1. Main gun/coax machine gun transmitter. Fits into main gun breech.

2. Coax machine gun microphone attaches to machine gun barrel jacket mount.

3. Control console. Mounted low on backside of radio guard rack, inside storage area, behind 105 mm gun ready rack on the turret floor.

4. Battery box. Mounted on top of control console.
5. M85 machine gun transmitter mounted on barrel support of M85 machine gun.
6. Detector belt segment on front, rear (inside the bustle), and both sides of turret.
7. Combat vehicle kill indicator (CVKI) mounted on rear turret lifting eye.